

Incidence of Hodgkin's lymphoma of head and neck in Baghdad city

Ahlam H. Majeed, B.D.S., M.Sc. ⁽¹⁾

Muna S. Merza, B.D.S., M.Sc., Ph.D. ⁽²⁾

ABSTRACT

Background: Hodgkin's lymphoma (HL), formerly called Hodgkin's diseases is an uncommon form of lymphoma. The incidence of Hodgkin's lymphoma shows marked heterogeneity with respect to age, gender, race, geographic area, social class and histological subtype. This study was carried out in an attempt to evaluate the incidence of Hodgkin's lymphoma of head and neck in Baghdad city.

Materials and Methods: The diagnosed cases of Hodgkin's lymphoma of head and neck region in Baghdad city between (1990-1999) were collected and analyzed according to age, gender, site and the histopathological subtypes of the tumor.

Results: Out of (702) cases of Hodgkin's lymphoma of ten years between (1990-1999), (362) of them were occurred in the head and neck region including (202) males and (160) females. The remaining (340) cases were occurred in other lymph nodes of the body.

Conclusion: This study revealed that predominant histopathological subtype of Hodgkin's lymphoma is the mixed cellularity type that showed more predominance in male especially among young age groups and low incidence with advancing age.

Keywords: Hodgkin's lymphoma, head and neck, incidence. (J Bagh Coll Dentistry 2013; 25(4):49-51).

INTRODUCTION

Hodgkin's lymphoma (HL) is a lymphoproliferative malignancy of B-cell origin ⁽¹⁾. According to the WHO classification, Hodgkin's lymphoma (HL) is divided into a classical variant and a nodular lymphocyte predominant variant which are characterized by the presence of Hodgkin's and Reed-Sternberg (H-RS) cells or lymphocytic and histiocytic (L&H) cells, respectively ⁽²⁾. Classical HL is separated into four subtypes: lymphocyte rich type, nodular sclerosis type, mixed cellularity type and lymphocyte depleted type. However, recent evidence suggests that classical Hodgkin lymphoma is not a single disease. While the mixed cellularity and lymphocyte depleted subtypes may be a part of a biologic continuum, the nodular sclerosis subtype has a distinct epidemiology, clinical presentation and histology ⁽³⁾.

Nodular lymphocyte predominant Hodgkin's lymphoma (NLPHL) is no longer classified as a form of classic Hodgkin's lymphoma (HL). This is because the Reed-Sternberg Cell (RSC) variants (popcorn cells) that characterize this form of the disease invariably express B lymphocyte markers such as CD20 (thus making NLPHL an unusual form of B cell lymphoma), and that (unlike classic HL) NLPHL may progress to diffuse large B cell lymphoma ⁽⁴⁾.

Regarding etiology, Hodgkin's Lymphoma has long been suspected to have an infectious precursor, and indirect evidence has implicated Epstein-Barr virus (EBV), as a causal agent. The Epstein-Barr virus (EBV) plays an important role and individuals with a history of infectious mononucleosis have an increased incidence of Hodgkin's lymphoma, but the precise contribution of Epstein-Barr virus remains largely unknown ⁽⁵⁾. Other risk factors may include an HIV infection, a family history of Hodgkin's lymphoma, and previous chemotherapy or radiation exposure. People who have suppressed immune systems due to certain medications or medical conditions may also be at risk.

The diagnosis of HL rests on recognizing Reed-Sternberg cells in a cellular background appropriate to one of the sub-types of the disease. Despite the application of many techniques including cell culture, immunohistochemistry and studies of gene re-arrangement, the histogenesis of Reed-Sternberg cell remain elusive ⁽⁶⁾.

MATERIALS AND METHODS

This study includes all the cases diagnosed as HL in Baghdad city that were collected from Iraqi cancer board over ten years (1990-1999). The cases were evaluated regarding age, gender, primary site and histopathological subtype of the tumor.

RESULTS

This study revealed that the total number of diagnosed cases of HL in Baghdad city between (1990-1999) were (702). Out of them, (362) cases were occurred in head and neck region. The

(1) Professor, Department of Oral pathology, College of Dentistry, Baghdad University.

(2) Assistant Professor, Department of Oral pathology, College of Dentistry, Baghdad University.

remaining (340) cases were occurred in other areas of the body (Table 1).

The age range of the patients was between (3-80) years with a mean of age was (28) years and median of (25) years including (202) males and (160) females.

Concerning age distribution of the patients, the higher affected age group was between (11-20) years old followed by age group (21-30) years old. Table (2) illustrated the distribution of the patients' gender in relation to age groups. This table revealed that female predominated in the age groups of (0-10) and (11-20) years old while males in remaining age groups were more affected than females.

The site distribution of HL that occurred in head and neck region revealed that the most common affected site was the cervical lymph nodes which represent (46.15%) of the cases followed by the supraclavicular lymph nodes which constitute (5.13%) of the cases and only two cases in the submandibular lymph nodes.

As far as the histopathological subtypes is concerned, table (3) revealed that the most predominant subtype is the mixed cellularity type which represent (54.69%) of the cases followed by nodular sclerosing type which represent (17.4%) of the cases and lymphocyte predominant type was (9.94%) of the cases while the lymphocyte depletion type constitute only (4.41%) of the cases. The remaining 49 cases were unclassified. The relation of histopathological subtypes to age groups and gender were demonstrated in (Table 4) and (Table5) respectively.

DISCUSSION

This study involves a review of the reported cases of Hodgkin's disease in Baghdad city of ten years between (1990-1999). Our results revealed that more than half of the total reported cases were affected head and neck region.

The majority of the cases affected cervical lymphnodes; this is in agreement with other studies which might reflect initiation by an infective process⁽⁷⁾.

Regarding the relation of age group to gender, younger age group showed an approximately equal male to female ratio except those below 10 years who showed similarity to old age by having higher male to female ratio. There has long been a view that the differences in descriptive epidemiology of Hodgkin's Lymphoma around the world, and also between children, young adults and older adults may reflect differences in etiology between them⁽⁸⁾.

Concerning the histopathological subtypes, result of present study revealed highest incidence of mixed cellularity subtype and become progressively less from nodular sclerosing to, lymphocyte predominant to lymphocyte depletion subtype. This finding come in accordance with different studies in most Asian countries such as Iran, Korea, Thailand and Japan that showed the common subtype is the mixed cellularity and relative paucity of nodular sclerosing subtype, particularly in males⁽⁹⁾ which seems to be related to the etiologic factors of disease (environment and/ or inheritance)⁽⁸⁾.

Correlating the histopathological subtypes to age, a study showed that most common subtype among the young adults, is nodular-sclerosing and the frequency of mixed cellularity increases with age, while that of nodular sclerosing reaches a plateau in the group >30 years of age⁽¹⁰⁾, this is in contrast to present finding which revealed higher incidence of mixed cellularity type among young age groups and low incidence with advancing age. This behavior persist for all other subtypes.

The histopathological subtypes in relation to gender, mixed cellularity subtype was more predominant in male while nodular sclerosing type had higher incidence in females, however, other study revealed that men are affected by HL slightly more often than women among all histopathological subtypes⁽¹⁰⁾.

The apparent changing pattern of disease from country to country and by time needs careful future studies⁽¹¹⁾, therefore; the comparison of HL rates in eastern and western countries could reveal the relative importance of environmental and genetic factors in disease etiology⁽⁸⁾.

Table1: Distribution of HL in Baghdad city between (1990-1999)

	Site	No. of cases	%	% of total
Head and Neck	Cervical lymph nodes	324	46.15	51.57
	Supraclavicular lymph node	36	5.13	
	Submandibular lymph node	2	0.3	
	Others	340		48.43
	Total	702		100%

Table 2: Distribution of patient's gender in relation to age group

Age group (years)	Males	Females
0-10	48	17
11-20	41	48
21-30	37	50
31-40	25	20
41-50	24	9
51	27	16
Total	202	160

Table 3: Histopathologic subtypes of HL according to Rye classification

Histopathologic subtypes	No. of cases	%
Mixed cellularity	198	54.69
Nodular sclerosing	63	17.4
Lymphocyte predominant	36	9.94
Lymphocyte depletion	16	4.41
Unclassified	49	13.53
Total	362	100%

Table 4: Relation of histopathologic subtypes to age groups

Age group (years)	Mixed cellularity	Nodular sclerosing	Lymphocyte predominant	Lymphocyte depletion
0-10	43	6	10	1
11-20	40	21	10	4
21-30	39	25	5	4
31-40	27	6	3	1
41-50	22	3	4	3
51<	27	2	4	3
Total	198	63	36	16

Table 5: Relation of histopathologic subtype to gender

Genders	Mixed cellularity	Nodular sclerosing	Lymphocyte predominant	Lymphocyte depletion
Males	115	28	22	9
Females	83	35	14	7

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